# $O \cdot P \cdot I$

## **SAFETY DATA SHEET**

Page 1 of 6 **SDS-021** 

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

SDS Revision: 4.1

SDS Revision Date: 2/8/2016

| 1. PRODUCT & COMPANY IDENTIFICATION |   |   |  |  |  |
|-------------------------------------|---|---|--|--|--|
| 1.1                                 | Product Name: CLARITÉ BY OPI LIQUID MONOMER |   |  |  |  |
| 1.2                                 | Chemical Name:                              | Methacrylate Solution                                       |  |  |  |
| 1.3                                 | Synonyms:                                   | NA  |  |  |  |
| 1.4                                 | Trade Names:                                | AO (801, 802, 804, 806, 807, 808, 880)                      |  |  |  |
| 1.5                                 | Product Use:                                | Professional Use Only                                       |  |  |  |
| 1.6                                 | Distributor's Name:                         | OPI Products, Inc.  |  |  |  |
| 1.7                                 | Distributor's Address:                      | 13034 Saticoy Street, No. Hollywood, CA 91605 USA           |  |  |  |
| 1.8                                 | Emergency Phone:                            | CHEMTREC: +1 (703) 527-3887 / +1 (800) 424-9300 (CCN 16377) |  |  |  |
| 1.9                                 | Business Phone / Fax:                       | +1 (818) 759-2400 / +1 (818) 759-5776                       |  |  |  |

#### 2. HAZARDS IDENTIFICATION

2.1 Hazard Identification:

This product is classified as a hazardous substance and as dangerous goods according to the classification criteria of NOHSC: 1008 (2004) and ADG Code (Australia).

WARNING! MAY BE HARMFUL IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE RESPIRATORY IRRITATION.

Classification: Flam. Liq. 2; Acute Tox. 5; Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3

<u>Hazard Statements</u> (H): H225 – Highly flammable liquid and vapor. H313 – May be harmful in contact with skin. H315 – Causes skin irritation. H319 – Causes serious eye irritation. H335 – May cause respiratory irritation.

Precautionary Statements (P): P210 – Keep away from heat/sparks/open flame/hot surfaces – No Smoking. P233 – Keep container tightly closed. P243 – Take precautionary measures against static discharge. P261 – Avoid breathing fume/ mist/vapors/spray. P264 – Wash exposed skin areas thoroughly with soap and water after handling. P272 – Contaminated work clothing should not be allowed out of the workplace. P280 – Wear protective gloves/eye protection/face protection. P280 – Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 – IF ON SKIN: Wash with soap and water. P305+P351+P338 – IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P333+P313 – If skin irritation or a rash occurs – Get medical advice/attention. P321 – For specific first aid treatment (See Section 4 of this Safety Data Sheet). P363 – Wash contaminated clothing before reuse. P370+P378 – In case of fire, CO<sub>2</sub>, Halon (if permitted), dry chemical, or foam for extinction. P403+P235 – Store in a well-ventilated place. Keep cool. P501 – Dispose of contents/container to a licensed treatment, storage or disposal facility (TSDF).



#### 3. COMPOSITION & INGREDIENT INFORMATION

|                            |  |                      |                     |             |         |         |            | EXPO        | SURE LI     | MITS IN | I AIR (mg | g/m³) |           |
|----------------------------|--|----------------------|---------------------|-------------|---------|---------|------------|-------------|-------------|---------|-----------|-------|-----------|
|                            |  |                      |                     |             | AC      | GIH     |            | NOHSC       |             |         | OSHA      |       |           |
|                            |  |                      |                     |             | pp      | om      |            | ppm         |             |         | ppm       |       |           |
| CHEMICAL NAME(S)           | CAS No.  | RTECS No.            | EINECS No.          | %           | TLV     | STEL    | ES-<br>TWA | ES-<br>STEL | ES-<br>PEAK | PEL     | STEL      | IDLH  | OTHER     |
| METHOXYDIGLYCOL            | 45103-58-0   | KK5075000            | 256-190-2           | 60-100      | NA      | NA      | NF         | NF          | NF          | NA      | NA        | NA    |           |
| METHACRYLATE               | Skin Irrit. 2, Sk  | in Sens. 1, Eye Ir   | rit. 2, STOT SE 3   | 3; H315, H  | 317, H3 | 19, H3  | 35         |             |             |         |           |       |           |
| HYDROXYETHYL METHACRYLATE  | 868-77-9   | OZ4725000            | 212-782-2           | 7-13        | NA      | NA      | NF         | NF          | NF          | NA      | NA        | NA    |           |
| (HEMA)                     | Acute ToxDer   | mal 5; Skin Irrit. 2 | 2; Eye Irrit. 2A; S | kin Sens. ' | 1; H313 | , H315, | H317,      | H319        |             |         |           |       |           |
| GLYCOL HEMA-METHACRYLATE   | 97-90-5  | OZ4400000            | 202-617-2           | 1-5         | NA      | NA      | NF         | NF          | NF          | NA      | NA        | NA    |           |
| GLTCOL HEIMA-WETHACKTLATE  | Skin Sens. 1, S  | STOT SE 3; H317      | , H335              |             |         |         |            |             |             |         |           |       |           |
| N,N-BIS(2-HYDROXYETHYL)-p- | 3077-12-1  | NA                   | 221-359-1           | 1-5         | NA      | NA      | NF         | NF          | NF          | NA      | NA        | NA    |           |
| TOLUIDINE (DHEPT)          | Acute Tox. 4, Eye Dam. 1, Aquatic Chronic 3;H312, H318, H412 |                      |                     |             |         |         |            |             |             |         |           |       |           |
| DROMETRIAZOLE              | 2440-22-4  | GO6860000            | 219-470-5           | 0.1-1       | NA      | NA      | NF         | NF          | NF          | NA      | NA        | NA    |           |
| DROINE I RIAZOLE           |  |                      |                     |             |         |         |            |             |             |         |           |       |           |
| BUTYLATED HYDROXYTOLUENE   | 128-37-0   | GO7875000            | 204-881-4           | 0.1-1       | (2)     | NA      | (10)       | NF          | NF          | (10)    | NA        | NA    | RESP FRAC |
| (BHT)                      |  |                      |                     |             |         |         |            |             |             |         |           |       |           |
| CI 60730 (EXT. VIOLET 2)   | 4430-18-6  | NA                   | 224-618-7           | 0.1-1       | NA      | NA      | NF         | NF          | NF          | NA      | NA        | NA    |           |
| CI 00730 (EXT. VIOLET 2)   |  |                      |                     |             |         |         |            |             |             |         |           |       |           |
| ·                          |  | ·                    | ·                   |             |         |         |            |             |             |         |           |       | ·         |

## $0.9 \cdot 1$

### SAFETY DATA SHEET

Page 2 of 6 SDS-021

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision: 4.1 SDS Revision Date: 2/8/2016 4. FIRST AID MEASURES First Aid: 4.1 If ingested, do not induce vomiting! If product has been swallowed, drink plenty of water or milk Ingestion: IMMEDIATELY. If the patient is vomiting, continue to offer water or milk. Never give water or milk to an unconscious person. Contact Rocky Mountain Poison Control Center at 1-303-623-5716 or the nearest Poison Control Center or local emergency number. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed. If irritation occurs & product is on the skin, rinse thoroughly with lukewarm water, followed by a thorough Skin: washing of the affected area with plenty of soap and water. Remove contaminated clothing and wash thoroughly before reuse. If irritation, redness or swelling persists, consult a physician immediately. If product gets in the eyes, flush with copious amounts of lukewarm water for at least 15 minutes. Open Eyes: and close eyelid(s) to ensure thorough irrigation. If irritation persists seek immediate medical attention. Inhalation: Remove victim to fresh air at once. If breathing stops, perform artificial respiration. Seek immediate medical attention. 4.2 Effects of Exposure: If product is swallowed, may cause nausea, vomiting and/or diarrhea and central nervous system Ingestion: depression. Irritating to the eyes. Symptoms of overexposure may include redness, itching, irritation and watering. Eyes: May be irritating to skin in some sensitive individuals, especially after prolonged and/or repeated contact. Skin: Vapors of this product may be slightly irritating to the nose, throat and other tissues of the respiratory Inhalation: system. Symptoms of overexposure can include coughing, wheezing, nasal congestion, and difficulty breathing. Inhalation of vapors exceeding the levels listed in Section 3 (Composition and Ingredient Information) can cause central nervous system depression (e.g., drowsiness, dizziness, headaches, nausea). 4.3 Symptoms of Overexposure: Symptoms of skin overexposure may include redness, itching, and irritation of affected areas. Overexposure in eyes may cause redness, itching and watering. The product can cause allergic skin reactions (e.g., rashes, welts, dermatitis) upon prolonged or repeated exposure. 4.4 Acute Health Effects: Moderate irritation to eyes and skin near affected areas. Additionally, high concentrations of vapors can cause drowsiness, dizziness, headaches and nausea Chronic Health Effects: 4.5 None known 4.6 Target Organs: Eyes, Skin, Respiratory System. 47 Medical Conditions Pre-existing dermatitis, other skin conditions, and disorders of the HEALTH 2 Aggravated by Exposure: target organs (eyes, skin, and respiratory system). **FLAMMABILITY** 1 PHYSICAL HAZARDS 2 PROTECTIVE EQUIPMENT В **EYES SKIN** 5. FIREFIGHTING MEASURES 5.1 Fire & Explosion Hazards: Keep away from heat, lit cigarettes, sparks & open flame and other sources of heat. Keep container closed. 5.2 Extinguishing Methods: CO<sub>2</sub>, Halon, Dry Chemical or Foam, as authorized. 5.3 Firefighting Procedures: When involved in a fire, this product will ignite readily and decompose to produce carbon oxides. Vapors of this product are heavier than air and may travel to a source of ignition and flash back to a leaking or open container. First responders should wear eye protection. Structural firefighters must wear SCBAs and full protective equipment. Use a water spray or fog to reduce or direct vapors. Water may not be effective in actually extinguishing a fire involving this product. HazChem Code: NA Hazard Identification Number: NA 6. ACCIDENTAL RELEASE MEASURES Spills: Before cleaning any spill or leak, individuals involved in spill cleanup must wear appropriate Personal Protective 6.1 Equipment. For small spills (e.g., < 1 gallon (3.8 L)) wear appropriate personal protective equipment (e.g., goggles, gloves). Maximize ventilation (open doors and windows. Remove spilled material with absorbent material and place into appropriate closed container(s) for disposal. Dispose of properly in accordance with local, state and federal regulations. Wash all affected areas and outside of container with plenty of warm water and soap. Remove any contaminated clothing and wash thoroughly before reuse. For <u>large spills</u> (e.g., ≥ 1 gallon (3.8 L)), deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g., sand or earth). Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for proper disposal. Remove contaminated clothing promptly and wash affected skin areas with soap and

## $\mathbf{O} \cdot \mathbf{P} \cdot \mathbf{I}$

### SAFETY DATA SHEET

Page 3 of 6 SDS-021

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision: 4.1 SDS Revision Date: 2/8/2016 7. HANDLING & STORAGE INFORMATION 7.1 Work & Hygiene Practices: Avoid prolonged contact with this material. Limit inhalation of the vapors generated by this product. Use in a wellventilated location (e.g., local exhaust ventilation, fans). Wash exposed skin thoroughly with plenty of soap & water after using this product. Do not eat, drink, or smoke while handling this product. Use and store in a cool, dry, well-ventilated location (e.g., local exhaust ventilation, fans). Keep away from excessive 7.2 Storage & Handling: heat, open flames, sparks, and other possible sources of ignition. Keep away from incompatible materials listed in Section 10. Do not store in damaged or unmarked containers or storage devices. Keep containers securely closed when not in use. Open slowly on a level, stable surface. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Keep away from children at all times! Special Precautions: 7.3 Local exhaust ventilation is recommended. Open containers slowly on a stable surface. Keep container tightly closed when not in use. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. 8. EXPOSURE CONTROLS & PERSONAL PROTECTION OTHER Exposure Limits: ACGIH NOHS OSHA 8.1 ppm (mg/m<sup>3</sup>) ES-TI V STFI PEL STEL IDLH CHEMICAL NAME(S) PFAK TWA STFI **BUTYLATED** NA (10)NF NF (10)NA NA RESP FRAC HYDROXYTOLUENE (BHT) (2)8.2 Ventilation & Engineering When working with large quantities of product, provide adequate ventilation (e.g., local exhaust ventilation, fans). Controls: Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes 8.3 Respiratory Protection: No special respiratory protection is required under typical circumstances of use or handling. In instances where vapors or sprays of this product are generated, and respiratory protection is needed, use only protection authorized by 29 CFR §1910.134, applicable U.S. State regulations, or the Canadian CAS Standard Z94.4-93 and applicable standards of Canadian Provinces, EC member States, or Australia. Eye Protection: Avoid eye contact. None required under normal conditions of use. However, may cause irritation in some sensitive individuals. Depending on the use of this product, splash or safety glasses may be worn. If necessary, refer to U.S. OSHA 29 CFR §1910.133, Canadian standards, or the European Standard EN166. When handling large quantities (e.g., ≥ 1 gallon), safety glasses with side shields should be used. AVOID SKIN CONTACT DUE TO SENSITIZING POTENTIAL. If anticipated that prolonged & Hand Protection: 8.5 repeated skin contact will occur during use of this product, wear latex or rubber gloves for routine industrial use. If necessary, refer to U.S. OSHA 29 CFR §1910.138, the appropriate standards of Canada, of the E.C. member states. 8.6 Body Protection: AVOID SKIN CONTACT DUE TO SENSITIZING POTENTIAL. However, no special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate standards of Canada, the E.C. member states, or U.S. OSHA. 9. PHYSICAL & CHEMICAL PROPERTIES Appearance: Clear liquid 9.2 Odor Mild acrylic odor 93 Odor Threshold: NA 9.4 pH: NA Melting Point/Freezing Point: 9.5 NA 9.6 Initial Boiling Point/Boiling 117 °C (243 °F) Range: 9.7 Flashpoint 82 °C (180 °F), closed cup Upper/Lower Flammability 9.8 NE Vapor Pressure: 9.9 NE 9.10 Vapor Density > 1.0 (Air = 1.0)9.11 Relative Density: 0.918 Solubility: 9.12 Slightly soluble Partition Coefficient (log Pow): 9.13 NΑ 9.14 Autoignition Temperature NA 9.15 Decomposition Temperature: NA 9.16 Viscosity NA Other Information: 9 17 NA

# $O \cdot P \cdot I$

### SAFETY DATA SHEET

Page 4 of 6 SDS-021

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision Date: 2/8/2016 10. STABILITY & REACTIVITY 10.1 Stability Relatively stable under ambient conditions when stored properly 10.2 Hazardous Decomposition If exposed to extremely high temperatures, products of thermal decomposition may include irritating vapors and toxic gases (e.g., oxides of carbon & nitrogen) 10.3 Hazardous Polymerization: Will not occur. 10.4 Conditions to Avoid Exposure to or contact with extreme temperatures, incompatible chemicals, strong light sources, sparks, flame 10.5 Incompatible Substances: Strong oxides, peroxides or strong acids. 11. TOXICOLOGICAL INFORMATION Inhalation: YES Absorption: YES Routes of Entry: Inaestion: 11.1 YES 11.2 Toxicity Data: This product has not been tested on animals to obtain toxicological data. There are toxicology data for the components of this product, which are found in the scientific literature. This data has not been presented in this document. 11.3 Acute Toxicity: See Section 4.4 Chronic Toxicity 11.4 See Section 4.5 Suspected Carcinogen This product contains Butylated Hydroxytoluene (BHT) which is not carcinogenic to humans, but is listed as Group 3 carcinogens by the IARC. Reproductive Toxicity 116 This product is not reported to produce reproductive toxicity in humans. Mutagenicity: This product is not reported to produce mutagenic effects in humans. However, animal mutation data are available for the components of this product Embryotoxicity: This product is not reported to produce embryotoxic effects in humans. Teratogenicity: This product is not reported to produce teratogenic effects in humans. Reproductive Toxicity: This product is not reported to produce reproductive effects in humans 11.7 Irritancy of Product See Section 4.3 11.8 Biological Exposure Indices: NE 11.9 Physician Recommendations: Treat symptomatically. 12. ECOLOGICAL INFORMATION Environmental Stability 12.1 This product will slowly volatile from soil. Components of this product will slowly decompose into organic compounds. Effects on Plants & Animals: 12.2 There are no specific data available for this product. 123 Effects on Aquatic Life There are no specific data available for this product. However, releases of large volumes may be harmful or fatal to overexposed aquatic life. Aquatic toxicity data for components of this product are available, but are not presented in this SDS **DISPOSAL CONSIDERATIONS** 13.1 Waste Disposal: Waste disposal must be in accordance with appropriate Federal, state, and local regulations 13.2 Special Considerations: 14. TRANSPORTATION INFORMATION The basic description (ID Number, proper shipping name, hazard class & division, packing group) is shown for each mode of transportation. Additional descriptive information may be required by 49 CFR, IATA/ICAO, IMDG and the CTDGR. 49 CFR (GND): 14.1 **NOT REGULATED** 14.2 IATA (AIR): **NOT REGULATED** 14.3 IMDG (OCN): NOT REGULATED 14.4 TDGR (Canadian GND): **NOT REGULATED** 14.5 ADR/RID (EU): **NOT REGULATED** SCT (MEXICO): 14.6 **NOT REGULATED** ADGR (AUS): 14.7 **NOT REGULATED** 15. REGULATORY INFORMATION 15.1 SARA Reporting This product does not contain any substances subject to SARA Title III, Section 313 reporting requirements. Requirements: 15.2 SARA Threshold Planning There are no specific Threshold Planning Quantities for the components of this product. Quantity 15.3 TSCA Inventory Status The components of this product are listed on the TSCA Inventory. 15.4 CERCLA Reportable Quantity Other Federal Requirements: 15.5 This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR subchapter G (Cosmetics)

# $\mathbf{J} \cdot \mathbf{P} \cdot \mathbf{I}$

### SAFETY DATA SHEET

Page 5 of 6

SDS-021 Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards SDS Revision: 4.1 SDS Revision Date: 2/8/2016 15. REGULATORY INFORMATION – cont'd 15.6 Other Canadian Regulations: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List. WHMIS D2B (Other Toxic Effects) 15.7 State Regulatory Information: Methoxydiglycol Methacrylate is listed on the following state criteria list: New Jersey Right-to-Know List (NJ), and Pennsylvania Right-to-Know List (PA) Hydroxyethyl Methacrylate (HEMA) is listed on the following state criteria list: NJ, PA. Glycol Hema-Methacrylate is listed on the following state criteria list: NJ, PA. No other ingredients in this product, present in a concentration of 1.0% or greater, are listed on any of the following state criteria lists: California Proposition 65 (CA65), Delaware Air Quality Management List (DE), Florida Toxic Substances List (FL), Massachusetts Hazardous Substances List (MA), Michigan Critical Substances List (MI), Minnesota Hazardous Substances List (MN), New Jersey Right-to-Know List (NJ), New York Hazardous Substances List (NY), Pennsylvania Right-to-Know List (PA), Washington Permissible Exposures List (WA), Wisconsin Hazardous Substances Other Requirements: The primary components of this product are listed in Annex I of EU Directive 67/548/EEC: Methoxydiglycol Methacrylate: Irritant (Xi). Risk Phrases (R): 36/37/38 - Irritation to eyes, respiratory system and skin. <u>Safety Phrases</u> (S): 2-7-16-24/25/26 – Keep out of the reach of children. Keep container tightly closed. Avoid contact with skin and eyes. In case of contact with eves, rinse immediately with plenty of water and seek medical advice. Hydroxyethyl Methacrylate (HEMA): Irritant (Xi). Risk Phrases (R): 36/38-43 - Irritation to eyes and skin. May cause sensitization by skin contact. Safety Phrases (S) 2-26-28 - Keep out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, was immediately with plenty of soap and water. Glycol HEMA-Methacrylate: Irritant (Xi). Risk Phrases (R) 37-43 - Wear suitable gloves. In case of fire use a water spray or fog to reduce or direct vapors. Water may not be effective in actually extinguishing a fire involving this product. Safety Phrases (S) 2-24-37 - Keep out of reach of children. Avoid contact with eyes. Wear suitable gloves. 16. OTHER INFORMATION WARNING! MAY BE HARMFUL IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE 16.1 Other Information: IRRITATION. MAY CAUSE RESPIRATORY IRRITATION. Keep away from heat/sparks/open flame/hot surfaces - No Smoking. Keep container tightly closed. Take precautionary measures against static discharge. Avoid breathing fume/ mist/vapors/spray. Wash exposed skin areas thoroughly with soap and water after handling. Wear protective gloves/eye protection/face protection. Wear protective gloves/eye protection/face protection. IF ON SKIN: Wash with soap and water. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. If skin irritation or a rash occurs - Get medical advice/attention. Store in a well-ventilated place. Keep cool. Precisely follow directions and MSDS (available through your supplier) for use. Avoid skin contact. If redness or other signs of adverse reaction occur, discontinue use immediately. KEEP OUT OF REACH OF CHILDREN. FOR PROFESSIONAL USE ONLY. Terms & Definitions: 16.2 See last page of this Safety Data Sheet. This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR §1910.1200. Other 16.3 Disclaimer: government regulations must be reviewed for applicability to this product. To the best of ShipMate's & OPI's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness is not guaranteed and no warranties of any type, either expressed or implied, are provided. The information contained herein relates only to the specific product(s). If this product(s) is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition. 16.4 Prepared for: OPI Products, Inc. 13034 Saticoy Street  $\mathbf{D} \cdot \mathbf{P} \cdot \mathbf{I}$ No. Hollywood, CA 91605 USA Tel: +1 (818) 759-2400 Fax: +1 (818) 759-5776 http://www.opi.com Prepared by: 16.5 ShipMate, Inc.

P.O. Box 787

Sisters, Oregon 97759-0787 USA

Tel: +1 (310) 370-3600 Fax: +1 (310) 370-5700 http://www.shipmate.com

## **SAFETY DATA SHEET**

Page 6 of 6 **SDS-021** 

Prepared to OSHA, ACC, ANSI, NOHSC, WHMIS, 2001/58 & 1272/2008/EC Standards

SDS Revision Date: 2/8/2016

### **DEFINITION OF TERMS**

A large number of abbreviations and acronyms appear on a SDS. Some of these that are commonly used include the following:

#### **GENERAL INFORMATION:**

| CAS No. | Chemical Abstract Service Number |
|---------|----------------------------------|
|         |                                  |

#### **EXPOSURE LIMITS IN AIR:**

| ACGIH   | ACGIH American Conference on Governmental Industrial Hygienists |  |  |  |
|---|---|--|--|--|
| TLV Threshold Limit Value                               |   |  |  |  |
| OSHA U.S. Occupational Safety and Health Administration |   |  |  |  |
| PEL Permissible Exposure Limit                          |   |  |  |  |
| IDLH Immediately Dangerous to Life and Health           |   |  |  |  |

#### FIRST AID MEASURES:

| CPR | Cardiopulmonary resuscitation - method in which a person whose heart has    |
|-----|---|
|     | stopped receives manual chest compressions and breathing to circulate blood |
|     | and provide oxygen to the body.   |

#### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM: HMIS

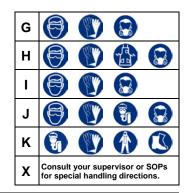
#### HEALTH, FLAMMABILITY & REACTIVITY RATINGS:

| 0 | Minimal Hazard  |  |  |  |
|---|-----------------|--|--|--|
| 1 | Slight Hazard   |  |  |  |
| 2 | Moderate Hazard |  |  |  |
| 3 | 3 Severe Hazard |  |  |  |
| 4 | Extreme Hazard  |  |  |  |



#### PERSONAL PROTECTION RATINGS:

| Α |      |  |  |
|---|------|--|--|
| В |      |  |  |
| С | (EV) | THE STATE OF THE S |  |
| D |      |  |  |
| Е | (EV) |  |  |
| F |      | ##.<br>##.   |  |





Splash Goggles



Face Shield &



Protective Clothing & Full Suit

Cy



Synthetic Apron





**Full Face Respirator** 

Dust & Vapor Half-Mask Respirator

## OTHER STANDARD ABBREVIATIONS:

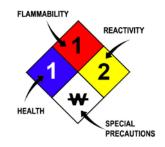
| NA   | Not Available                      |
|------|------------------------------------|
| NR   | No Results                         |
| NE   | Not Established                    |
| ND   | Not Determined                     |
| ML   | Maximum Limit                      |
| SCBA | Self-Contained Breathing Apparatus |

#### NATIONAL FIRE PROTECTION ASSOCIATION: NFPA

| FLAMMABILITY LIMITS IN AIR: |   |  |  |  |  |
|-----------------------------|---|--|--|--|--|
| Autoignition<br>Temperature | Minimum temperature required to initiate combustion in air with no other source of ignition   |  |  |  |  |
| LEL                         | Lower Explosive Limit - lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source  |  |  |  |  |
| UEL                         | Upper Explosive Limit - highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source |  |  |  |  |

#### **HAZARD RATINGS:**

| 0 Minimal Hazard  |                |  |  |
|-------------------|----------------|--|--|
| 1                 | Slight Hazard  |  |  |
| 2 Moderate Hazard |                |  |  |
| 3                 | Severe Hazard  |  |  |
| 4                 | Extreme Hazard |  |  |
| ACD               | Acidic         |  |  |
| ALK               | Alkaline       |  |  |
| COR               | Corrosive      |  |  |
| W                 | Use No Water   |  |  |
| ох                | Oxidizer       |  |  |
| TREFOIL           | Radioactive    |  |  |



#### **TOXICOLOGICAL INFORMATION:**

| LD <sub>50</sub>   | Lethal Dose (solids & liquids) which kills 50% of the exposed animals s |
|--|---|
| LC <sub>50</sub>   | Lethal concentration (gases) which kills 50% of the exposed animal      |
| ppm  | Concentration expressed in parts of material per million parts          |
| TD <sub>Io</sub>   | Lowest dose to cause a symptom  |
| TCLo   | Lowest concentration to cause a symptom                                 |
| TD <sub>Io</sub> , LD <sub>Io</sub> , & LD <sub>o</sub> or | Lowest dose (or concentration) to cause lethal or toxic effects         |
| TC, TC <sub>o</sub> , LC <sub>io</sub> , & LC <sub>o</sub> |   |
| IARC   | International Agency for Research on Cancer                             |
| NTP  | National Toxicology Program   |
| RTECS  | Registry of Toxic Effects of Chemical Substances                        |
| BCF  | Bioconcentration Factor   |
| TL <sub>m</sub>  | Median threshold limit  |
| log Kow or log Koc   | Coefficient of Oil/Water Distribution                                   |

#### **REGULATORY INFORMATION:**

|   | •  |  |
|---|--|--|
| WHMIS   | Canadian Workplace Hazardous Material Information System |  |
| DOT   | U.S. Department of Transportation                        |  |
| TC  | Transport Canada   |  |
| EPA   | U.S. Environmental Protection Agency                     |  |
| DSL Canadian Domestic Substance List                    |  |  |
| NDSL Canadian Non-Domestic Substance List               |  |  |
| PSL Canadian Priority Substances List                   |  |  |
| TSCA U.S. Toxic Substance Control Act                   |  |  |
| EU European Union (European Union Directive 67/548/EEC) |  |  |
| WGK   | WGK Wassergefährdungsklassen (German Water Hazard Class) |  |

#### WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION (WHMIS) SYSTEM:

| 0              | <b>*</b>      | <b>(4)</b> |          | $\odot$    | (1)        |           |          |
|----------------|---------------|------------|----------|------------|------------|-----------|----------|
| Class A        | Class B       | Class C    | Class D1 | Class D2   | Class D3   | Class E   | Class F  |
| Compresse<br>d | Flammabl<br>e | Oxidizing  | Toxic    | Irritation | Infectious | Corrosive | Reactive |

#### EC (67/548/EEC) INFORMATION:

| T.        |           | M             | *       |           | <b>*</b> | ×        | ×       |
|-----------|-----------|---------------|---------|-----------|----------|----------|---------|
| С         | E         | F             | N       | 0         | Т        | Xi       | Xn      |
| Corrosive | Explosive | Flammabl<br>e | Harmful | Oxidizing | Toxic    | Irritant | Harmful |

### CLP/GHS (1272/2008/EC) PICTOGRAMS:

| < |           |           |          | $\Diamond$  |           |       | <b>\</b>              |                  | <b>(1)</b>  |
|---|-----------|-----------|----------|-------------|-----------|-------|-----------------------|------------------|-------------|
|   | GHS01     | GHS02     | GHS03    | GHS04       | GHS05     | GHS06 | GHS07                 | GHS08            | GHS09       |
|   | Explosive | Flammable | Oxidizer | Pressurized | Corrosive | Toxic | Harmful<br>Irritating | Health<br>Hazard | Environment |